

Notice of Allowability

Application No.

09/764,523

Examiner

Gentle E. Winter

Applicant(s)

SATOH ET AL.

Art Unit

1746

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 1/20/04.
2. ☒ The allowed claim(s) is/are 39,40 and 46-50 (renumbered as 1-7).
3. ☒ The drawings filed on 18 January 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Allowable Subject Matter

1. The following is an examiner's statement of reasons for allowance:
2. Claim 39 is allowable because it has been rewritten in independent form including all of the limitations of the base claim and any intervening claims. Applicant posits that the needle valve "does not meet the limitation of claim 39." Applicant's argument is accepted. The needle valve does not allow for the withdrawal of a sealing element. Page 8, in the paragraph starting at line 6 discloses:

While being brought into the reaction chamber where film formation is performed through a conduit, generated fluorine active species returns to molecules by colliding with the valve that restricts the flow by narrowing a passage, or it is deactivated by reacting with the valve surface. As a result, the amount of fluorine active species declines. Similarly, if piping from the second plasma discharge chamber to the reaction chamber is too long or bends at an acute angle, due to higher contact probability with the piping surface en route or by colliding with the corner portion of the bent piping, the amount of fluorine active species decreases. Decreased fluorine active species lowers the cleaning rate within the downstream deposition chamber and results in insufficient cleaning.

3. The prior art of record does not appear to appreciate that the etch rate may be improved reducing the collisions between the species source and the product to be etched by changing the valve type.
4. Independent claim 39 and dependant claims 40, and 46-50 are allowed for the reason of record, restated, in part, herein.
5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

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Conclusion

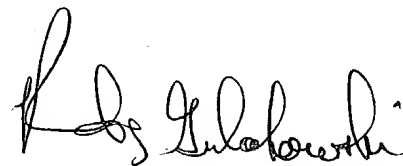
1. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gentle E. Winter whose telephone number is (571) 272-1310.

The examiner can normally be reached on Monday-Friday 7:00-3:30.

2. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy P. Gulakowski can be reached on (571) 272-1302. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9306 for After Final communications.

Gentle E. Winter
Examiner
Art Unit 1746

February 4, 2004



RANDY P. GULAKOWSKI
SUPERVISOR, PATENT EXAMINER
TECHNOLOGY CENTER 1700